THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. I.—No. 17. March 15, 1837. Whole No. 17.

THE OBSERVER.—No. III.

HOLLOW HORN.

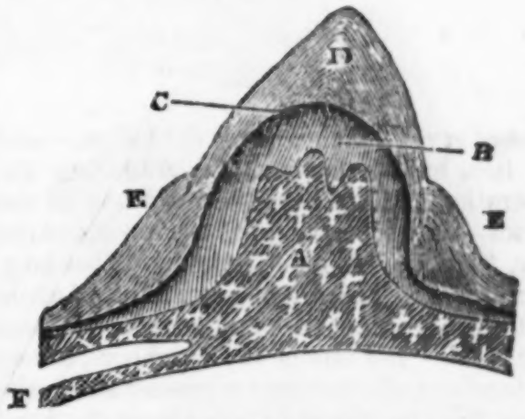
When my former essays were written, I did not expect again, to obtrude my horns into the Cabinet;—but further investigations, have led to results which I shall briefly notice. Not possessing either the leisure, or opportunity to make the needful examinations at the time, I drew the anatomical account of the horns, from authorities on which I thought I could rely. I supposed it to be sufficiently correct for my purpose, although I doubted the accuracy of some of the minute details. I find these to be more erroneous than I had expected.

It is stated in my first number, that "during the developement of the horn, its bone becomes anchylosed, or united with the os frontis." The bone of the horn *is never detached from*—but *grows out of* the os frontis. Having opportunely met with a pair of calf's horns, which had just protruded through the skin,—they were found quite *moveable* on the frontal bone, as has been stated. On making a section of the entire horn, the source of error was discovered. In the centre, was a mammary protuberance of bone, *completely consolidated with the skull beneath.* On this protuberance, rested a thick layer of soft elastic cartilage or gristle,—then the periosteum,—and finally the shell of horn. The motion was between the shell and pith, and resulted from the elasticity of the cartilage. Neither the pith, nor the skull immediately beneath, presented any cavity. A little lower, on the forehead, the plates of the skull were separated, so as to form a small frontal sinus.

Fig. 66, represents this section—A the pith—B the elastic coat—C the periosteum—D the shell—EE the skin rising upon the root of the horn—F the frontal sinus.

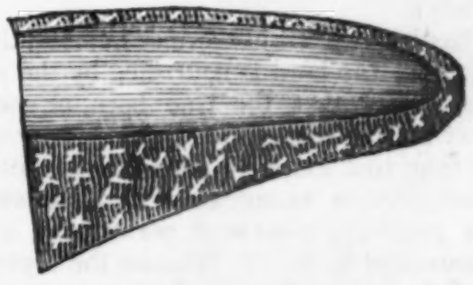
I have found the cavities of horns, even more irregular than I had anticipated, in my former number—especially, as relates to their

Fig. 66.



extent. At one time, I have found the hollow extending to the very tip of the core, leaving the bone on one side, as thin as coarse paper. A longitudinal section of the end of the pith is represented in Fig. 67. In other instances,

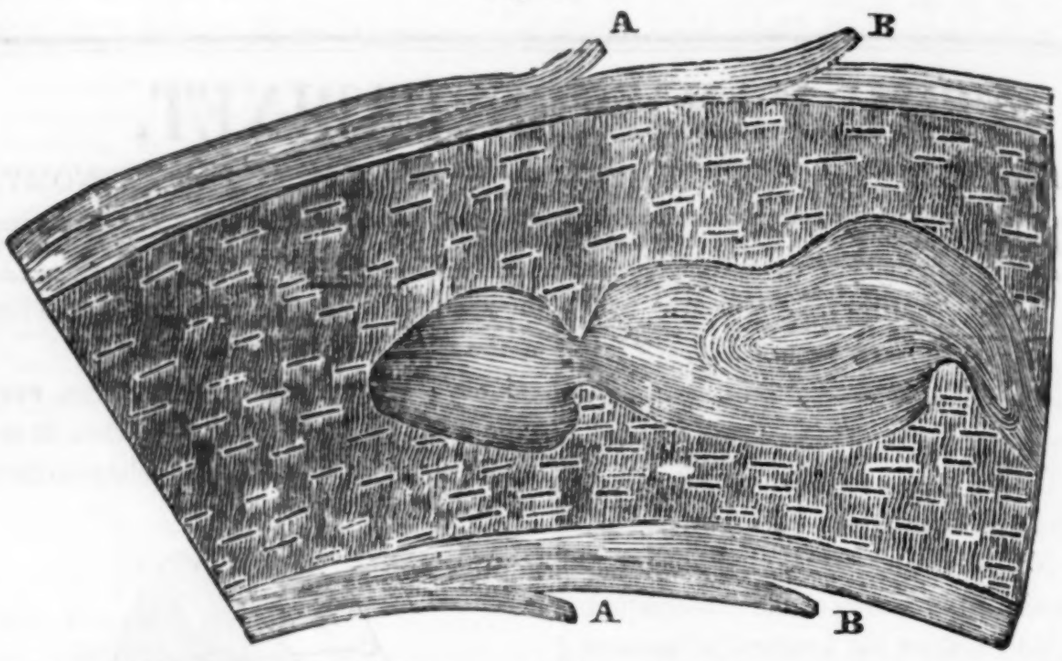
Fig. 67.



the cavity has been very small, and did not extend more than two or three inches into the root of the horn. In these cases, the middle and upper portions of the shell, are occupied by a large mass of bone. A section of such a horn is shown in Fig. 68.

It will mostly happen that horns of the latter description will be bored *above the cavity.* In *six* horns which have been bored, I found that in *two*, the instrument had only penetrated *through the shell*—in *two*, it had

Fig. 68.



passed several inches *above the hollow*;—and in *two*, had penetrated it. Admitting the operation to have been necessary, in all the cases,—it must have failed in *four* out of the *six*, from the manner in which it had been performed. This might seem to afford a hint to the advocates of the practice, to bore *nearer the head*. But one of my neighbors, a very extensive and experienced grazier and feeder says, that he formerly bored *near the head*, but finding *corrupted horn frequently to follow the operation*, he has latterly bored *nearer the tip*, and he now *seldom sees corrupted horn*. This testimony strongly corroborates my opinion, that *putrid horn is generally caused by boring*, and shows that boring *above* the cavity is less dangerous than boring *into it*.

It has been stated in a former number. that the bone of the horn is nourished by the periosteum, and that the true horn, or shell, grows from the root, and derives its nourishment from that source. This was admitted without further examination: 1. because bones generally possess a periosteum, and are nourished by it. 2. Because the reparation of the injury from boring, appeared to take place in the pith—the perforation in the shell never being filled up. This reasoning satisfied me until I was informed by a dealer in horns, that the pith of a bored horn, *would not come out of the shell*. If the injured pith was merely repaired by a deposite of new bone, I could not see how the separation would be prevented, and commenced an examination immediately. In every *bored horn* which I have examined, a portion of bone has been absorbed, around the opening in the shell, *forming a conical cavity in the pith*, corresponding to the extent of the injury. In those cases, where the instrument had passed *through to the opposite side* of the shell, a *smaller excavation*, has uniformly been found on *that side of the pith also*—the two cones meeting in the centre, so as to form an hour-glass shaped opening *through the bone*. This opening was filled with a similar shaped deposite of *bone* firmly united with the interior of the shell. Where two cones of horn existed, their points were always united. The larger cone, next the bore in the shell, was always hollow, to a greater or less extent, where the instrument had penetrated the bone. In one instance where the whole horn had been transpierced, a hollow tube or cylinder of horn, passed quite through.

Fig. 69.

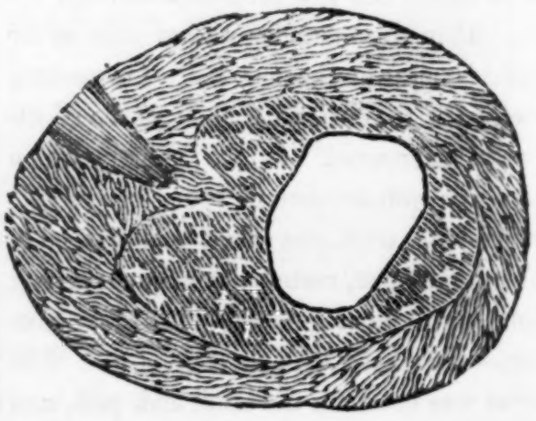


Fig. 69. A section where the instrument did not enter the cavity.

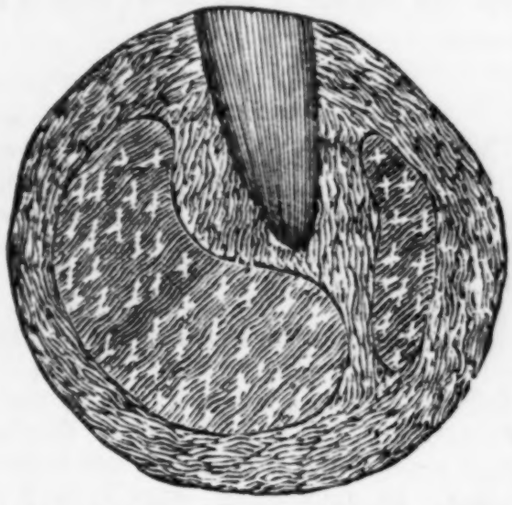
Figs. 70 and 71. Sections of the horns which had been bored above the cavity.—They exhibit a remarkable uniformity in the progress of cure from similar injuries.

Fig. 72. A section where the horn had been transpierced.

In all the cases, the periosteum extended *between* the bone and new horn—and in *no case* did I find a well characterized deposite

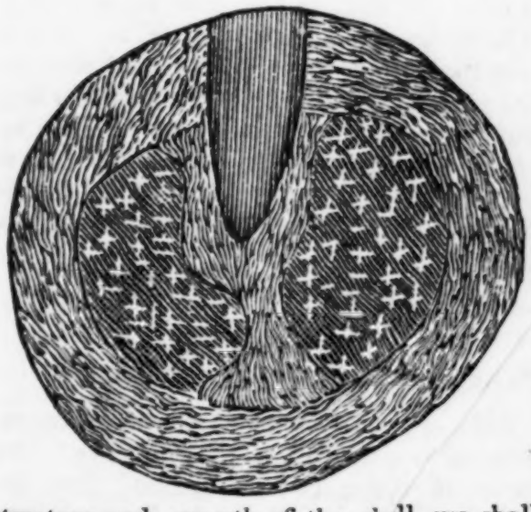
of new bone. I am, therefore, left to conclude, that the use of the periosteum is more connected with the shell than the pith, and

Fig. 70.



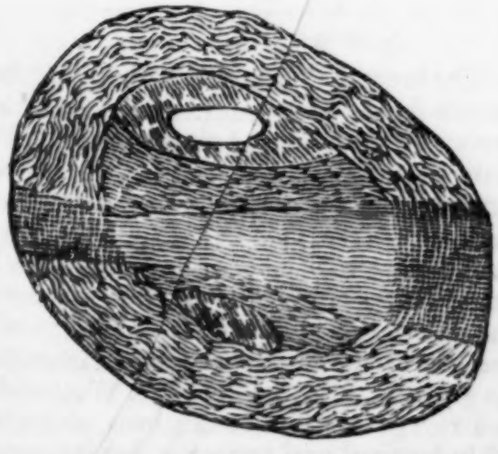
that its vessels *secrete horn and not bone*—the latter, being nourished by its own proper vessels. On a closer examination of the

Fig. 71.



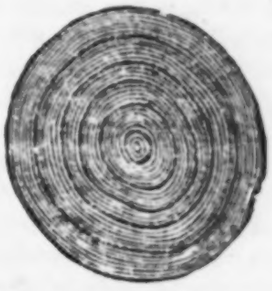
structure and growth of the shell, we shall find that the periosteum not only *secretes horn* to repair injuries, but that it *constantly se-*

Fig. 72



cretes new layers of horny fibres over the whole interior surface of the shell. In a transverse section of the horn, above the pith, we observe a number of concentric circles or layers—often varying in color, and sometime, separating,—see Fig. 73. If a longi-

Fig. 73.



tudinal section be made of the same part, it will be seen that the layers run into each other, like so many hollow cones,—see Fig. 74.

Fig. 74.

These layers are successively formed on the interior of the shell, extending from the root to the tip of the core. But while the

layers are thus forming, *they also grow out from the root*, so as to push the external ones forward, and increase the length of the horn. As the external layers will not stretch, or become elongated, it is necessary that as new ones form, the old ones should lose their hold in the skin, and be drawn out. Hence, the external layers are shorter than the horn. After a few of the first years, this detachment of the roots of the old horn *occurs at annual periods*, giving origin to the *annuli* or *wrinkles*, which denote the age of the animal.

A reference to Fig. 68, will show the manner in which the roots of the old layers become detached, and pushed out by the new ones, AA—BB represent the roots, or wrinkles of two annual layers.

In sheep, &c., the layers become detached at shorter intervals, and the annuli are increased in number, in the same proportion. Hence, the age of the animal cannot be inferred from them, unless it shall be found that a *certain number* are produced each year. This would be an interesting inquiry for those who are engaged in sheep culture.

New Garden, 2d mo. 22d., 1837.

Murrain.

To the Editor of the Farmer's Cabinet.

Sir,—If the following remarks, relating to a disease which is considered by a large portion of the community as incurable, be viewed by you of sufficient importance to entitle them to a place in your paper, when convenient please publish them.

There are two processes recommended for the cure of the *Murrain* in cattle; one of them is to give the animal one pint of spirits of turpentine, and in twenty-four hours afterwards, a pint of olive oil or hog's lard; in forty-eight hours afterwards half a pint of turpentine, and in twenty-four hours after this, half a pint of olive oil or hog's lard.

The other is to give a pint of flaxseed oil, and in twelve hours afterwards two pounds of glaubar salts, followed immediately by repeated doses of warm water, for ten or twelve hours.

Note. Perhaps all of these combined would be still better, (the quantity of each ingredient to be such as experience may dictate,) as acting more quickly on different parts of the system. It seems the symptoms of this disease are not generally discovered until within a short time previous to the death of the animal, which soon ensues unless arrested by medical aid;—consequently such substances as tend to restore the system to a healthy state the most rapidly, combined with other substances, to prevent injury to the animal, seems proper.

A.

Chester co. Pa.. Feb. 23, 1837.

With the following communication we received the names of twenty subscribers, with the amount of the subscription in advance.

For the Farmer's Cabinet.

On Pruning Fruit Trees.

Mr. Editor,—Permit me through the medium of your excellent paper, to offer a few remarks on this subject. If any of my readers should doubt, let them try the experiment and thereby test its correctness. My time for pruning and method of doing it, are as follows: any time between the 25th of May and the 10th of June, is the season which I prefer, as the sap is in motion, and the wound will heal over in one half the time than any other season; the tree is also less liable to sucker. In amputating large limbs, I use a fine saw, paring the edge of the wound with a sharp knife, but for small limbs a hatchet, or pruning hook may be used, endeavoring by all means to amputate the limbs as near the body of the tree as possible.—Where the saw is used it would be better to have the surface smoothed by some sharp instrument, in order to prevent the water from remaining on the wound long. These remarks are not intended to introduce me to the Cabinet as a regular essayist, but merely to bring out a more able writer on the subject.

Washington, Pa., Feb. 27, 1837.

Wheat Fly.

To the Editor of the Farmer's Cabinet.

Sir,—The following process is recommended to destroy the *Wheat Fly.* One bushel of *unslacked* lime, ground fine like Gypsum (Paster of Paris) to the acre, and sowed in the spring just as the wheat begins to grow.

A.

Chester co. Pa., Feb. 25, 1837.

Culture of Onions.

The town of Wethersfield has long been famous for the large quantities of onions which are annually raised and exported to the West Indies and the Southern States. It has been superstitiously supposed there is something in the soil of Wethersfield peculiarly adapted to the culture of onions; and this whim has no doubt discouraged many from attempting the cultivation of this valuable root, in other sections of the country, equally favorable to its growth. It is true the soil of Wethersfield is a rich gravelly and sandy loam, well adapted to horticultural purposes; but the success of its inhabitants in the culture of onions, is attributable in a much greater degree, to a particular virtue in the fingers of its females, than any peculiar properties in its soil.

The business of raising onions in Wethersfield, is reduced to a perfect system. The following is the method of cultivation. Early in the spring the land is manured by ploughing in fine manure from the stable or barn-yard, in the proportion of about ten loads to the acre. That of neat cattle is preferred, as that of horses is considered of too heating a nature. After the manure is ploughed in, the land is well harrowed and laid out into beds five feet wide. The beds are laid out by turning a furrow towards them each way. This raises the beds above the aisles and gives an opportunity for the water to run off should there be occasion for it. They are then raked with an iron-tooth, or common hay-rake, and the aisles suffered to remain as left by the plough. The beds are then ready to receive the seeds.

As early as the season will admit, the seed is sown in the following manner. A rake, with teeth a foot a part, is drawn crosswise of the beds for the purpose of making drills for the reception of the seed. The seed is then sowed in the drills, with the thumb and fingers, and covered with the hand. From ten to twelve pounds of seed is put upon an acre. After the plants come up they are kept free of weeds, which generally require four weedings. A hoe of a suitable width to pass between the rows is used in weeding, which saves much labor. When ripe they are pulled and the tops cut off with a knife. A sufficient length of top is left to tie them to the straw in roping. They are then roped, or bunched in ropes or bunches of 3 1-2 pounds, as required by the law of the State. An ordinary crop is from 6000 to 8000 ropes to the acre. The quantity annually raised in the town, is estimated from 1,000,000 to 1,500,000 ropes, which are sold at an average price of $ 2 a hundred, amounting to from $20,000 to $30,000.

Most of the labor in raising onions in Wethersfield, is performed by females. The cultivation of an acre requires from fifty to sixty days labor of a female, whose wages, including board, is about forty-two cents a day. Though many of the young ladies of Wethersfield spend a portion of their time in onion gardens; yet in personal beauty, education and politeness, they are not excelled by females of far less industrious habits.

Farmer's Work.

EWES AND LAMBS.

The New England Farmer says: it is incumbent on every good husbandman and faithful shepherd, to feed his Ewes plentifully for a few weeks before, and a considerable time after they produce their lambs. Good farmers have told us that they have found it very beneficial to give to each of their ewes about one half a gill of Indian corn a day, for 5 or 6 weeks before they have yeaned, and while suckling, to give them good roots, or some other juicy food. The want of milk in the ewes, is the most general cause of death in the lambs. Keep the mothers well, and their offspring will thrive and be strong.

The *Farmer's Manual* says, "If you have stored more turneps than are sufficient for the use of the table, give them to any stock that will eat them, except your sheep; give to them potatoes, but not turneps at this season, for turneps will injure the lambs."* Weak lambs should be treated in all respects as if they had been drowned, and you was endeavoring to restore them to life. Apply gentle and regular warmth; give them warm milk, frequently, in small quantities, (the milk of the sheep is best,) and if the ewe has milk sufficient for the support of the lamb, you may generally raise it, otherwise the lamb usually dies. It requires more care and labor to nurse one feeble lamb, when its dam yields too little milk for its support than it would for an hundred, if they were healthy and well kept.

If your sheep, whether store sheep or ewes with lamb, have good hay, about a quart of potatoes a day, to each, will, it is said, be very beneficial, and an ample allowance.† But when the object is to fatten them, (says a writer in Rees' Cyclopedia,) about a gallon of potatoes a day, with a little hay will be the proper quantity; but this is dependent in part on the size of the animals, and in part on the quality and quantity of the hay, which is allowed them. Potatoes, besides their use as food for sheep, are said to be very serviceable to those animals as an article of diet, which usually supersedes the necessity of *medicine*. They have, when given raw, an opening or purgative quality, which is thought to be of use, and to answer a similar purpose with sheep, which is effected with swine by brimstone and antimony.

Care should be taken to place in the stable small tubs or troughs of water for the sheep to drink in. They will do very well in summer without water, as they feed when the dew is on, but they need water in winter, especially if fed mostly on dry food. Deane's N. E. Farmer states that "when sheep have colds and discharge mucus from the nose, good feeding, together with pine boughs given occasionally, will cure them; or tar spread on a board over which a little fine salt is strewed, will induce the sheep to lick up tar, and this will cure a cold."

The *Yankee Farmer*, in giving directions for raising lambs, observes that "great care should be taken when lambs are born, for it is frequently the case that their fore teeth

* Do not give potatoes until they HAVE lambed.

† But not for some time before lambing.

are not cut, which makes it very difficult for them to hold the teat, so as to suck when young and weak, and it is common for lambs to get discouraged, though ever so rugged at first. To remedy this evil rub the thumb nail, or any hard substance, over the gums, sufficiently hard to cause the teeth to cut through, and the lambs will then be able to suck without any difficulty."

Clay has been recommended as useful for restoring and preserving health to sheep. A writer in the New York Farmer gives the following remarks on this subject:—"I am told on credible authority, that a gentleman, who was losing his sheep without apparent cause, had occasion to use some clay about his house in the winter, and his sickly flock ate it with avidity; he caused a load to be placed in their yard, much of which was devoured, and his sheep speedily recovered.

"As a cure therefore, I would recommend clay to be placed in the sheep yard, which can at worst do no harm, as the animals will not eat it, unless prompted by instinct."

Wheat.

Last spring we published some suggestions on the late sowing of spring wheat, as a means of saving it from the ravages of a little yellow worm which some incorrectly call the *weevil*. A number of our subscribers tried the experiment, and so far as we have heard, with entire success. A farmer in Orange county told us that he sowed one acre of spring wheat *ten days* later than the rest in the same field. The first sowed was seriously injured, the last not at all. Several, in other towns, made similar statements.

It has been observed, from the first appearance of this insect, that the earliest winter wheat was less injured by its attacks than any other. It is evident, therefore, that the time of laying eggs is short. It is probably, soon after the heads make their appearance; before they are defended by the leaf which encloses them; and when they appear, most probably, the husk soon becomes so hard that the insect cannot pierce it to deposit her eggs upon the kernel. We have, then, only to ascertain the time, as exactly as we can, in which the injury is done, and have our winter wheat too forward, and spring wheat not forward enough, for the operations of the insect, and the damage is avoided. At present sow your winter wheat as *early* as you can and sow your spring wheat as *late* as you can, and give it time to ripen.

Farmers, and all who find either pleasure or profit in any thing made from wheat would be greatly indebted to any etymologist who should make us better acquinted with the character and habits of this destructive insect.—*Vt. Chronicle.*

Castor Bean Plant.

PALMA CHRISTI.

Professor Ducatel, in his Geological Survey of Maryland, in speaking of the agricultural resources of the lower counties on the Eastern Shore, says:

A popular belief, founded upon prejudice, is, that plaster will not act upon land contiguous to salt water. It is not so. Lands, whether near or remote from the sea, upon which *gypsum* did not seem to take kindly, have been found, *after being marled or limed*, to derive the usual benefits imparted by this valuable material. In some parts of Somerset, a small portion, it is true, as yet, the crop of sweet potatoes is the main one, and is found very profitable, as is evident by the thriving condition of the small farms on Big and Little Deele's Island; whilst intelligent farmers, in other parts of the county, have turned their attention advantageously to the cultivation of beans, peas, &c. But there is yet another growth that bids fair to become of great value to the agricultural interest of the Eastern Shore of Maryland, namely, the *palma christi*, or castor bean plant, sometimes known by the name of *mole plant*.

An attempt was made in the report of last year, to excite the interest of the farmers of Queen Anne and Caroline counties, in behalf of this new crop. It is to be regretted that they have not extensively, if at all, availed themselves of the suggestion—the bean having increased in value far beyond the most sanguine expectations. There ought to be, therefore, no further delay to the introduction of this growth as one of the staple commodities of Maryland.—Without having been as yet able to ascertain the precise cause of the extraordinary demand for this article, within a few years, there is still reason to believe that the call for it will continue to be great; since, notwithstanding its extended cultivation in consequence of the high prices obtained in preceding years, it now commands a higher price than at any former period. It has been stated that the oil expressed from the beans is employed in large quantity in the manufactories of England for greasing the machinery by which these establishments are put into operation.

The culture of the palma christi presents no difficulties. It is said to thrive best in good corn lands, yielding, according to the quality of the soil, from twenty-five to forty bushels per acre. The land requires the same preparation as for corn; and the bean is planted like this grain,—in hills on which two or three plants are suffered to grow; the subsequent tillage being also the same as that practised for corn. The most tedious part

of the management of this crop is the gathering of fruit, which forms a cluster with a pyramidal termination; the lower portion being occupied by the male flowers that yield no seed, and the upper by the female flowers. In the female flowers, the ovary, which is roundish and three-sided, supports three linear reddish stigmas, forked at their apex.—The fruit, properly speaking, is a round capsule, with three projecting sides, covered with round spines, and divided into three cells, each containing one seed. The flowers appear in July, and the seed ripens throughout August and September. If suffered to do so on the plant, the capsule bursts with considerable force, projecting the seed at a distance, and scattering it about the field. To avoid this is the only extra attention required by this growth, and this is done by anticipating the maturity of the fruit. The directions are, to visit the plantation a little before the commencement of the ripening season, removing those clusters that approach to maturity, (which is known by a change of color, from grayish green to a light pea green,) and conveying them to the drying ground, where, by the effect of the sun's heat, they burst and dislodge their seeds. The only preparation for the drying ground is to provide a small place, cleaned and levelled as for a threshing floor, upon which the clusters are scattered. It would be advisable to locate this spot in the neighborhood of the barn, or near a shed, so as to facilitate the removal of the plants, in case of protracted wet weather, to some sheltered situation. Transient showers of rain do not, however, damage it, otherwise than by blackening the seed, whereby its sale might be injured, although it does not diminish its productiveness in oil. The occupation of gathering having once commenced, it should be so arranged as to visit each plant twice a week morning and evening, until the whole crop has been secured. It may then be sent to a market, where, at the time of writing this Report, it commands three dollars a bushel; or, it may be made to yield its oil by the following process, as practised in Northampton county, Virginia.

The seeds are first to be thoroughly cleaned of dust, and of portions of the capsules that may have adhered to them. They are then introduced into shallow iron drawers, arranged on both sides of a furnace, where they are exposed to a gentle heat; the object of this first operation being to render the oil more easy of expression. From these drawers they are conveyed into a powerful screw-press, by the operation of which the oil is obtained. So far, however, the oil is impure: It must now therefore, be transferred to clean iron boilers, previously supplied with water. As the boiling proceeds, the impurities that rise to the surface, are skimmed off, and the clear purified oil finally makes its appearance, floating on the water. It is now carefully removed, and a second time subjected to the boiling process, with a small quantity of water, until the latter liquid has been entirely dissipated. This is ascertained by taking out a small portion into a vial, and observing whether it preserves its transparency as it cools. Some care is required not to push the heat too far, as then the oil would acquire a brownish hue and a hot peppery taste, which would at all events unfit it for use as a medicine. One bushel of seeds yields about one gallon and three quarters of oil, at an expense of about twenty five cents a bushel which is refunded by the sale of the *pomace*, found to be an excellent manure for corn crops. Acknowledgments are due to Mr. Smith, of Northampton county, Va., an intelligent and experienced planter of palma christi, and manufacturer of castor oil, in the vicinity of Eastville, for the information contained in the above paragraphs.

It is needless, after what has just been said, to expatiate upon the value of the plant. That the soil and climate of at least the lower portions of the Eastern Shore of Maryland are congenial to its growth, cannot be doubted. The praiseworthy example (crowned, it is believed, with entire success) has already been set to the inhabitants of Somerset, by one of the most intelligent farmers of the county—Col. Arnold E. Jones.

Chess--Bromus Secalinus.

Many of our agricultural papers have recently published articles on the subject of the conversion or degeneration of Wheat into Chess. We have been rather surprised to find that several have embraced the opinion that such change does really take place.

They rest the proof of their position upon the supposed facts, that chess has been found growing from a grain of wheat, and that clean wheat, sown on certain kinds of ground, has returned almost nothing but chess.

Many persons might be deceived by an instance of the first case, while a careful examination would show their error. We have heard of several supposed cases, of a stalk of chess growing from a grain of wheat, where a close examination by a skillful observer has detected the mistake.

As to the latter case, in the same way, we have seen wheat and rye turned into what are commonly called *wild turneps*. Improper seeds may exist in the soil previous to the sowing of pure grain and these will most assuredly come up and flourish as well as the good grain, and sometimes, being more hardy or earlier, may altogether overcome it.

It is a principle in nature, that genuine

distinctions can by no process of art be changed, the one in the other, and wheat and chess belong to very distinctly different genera. It is not even likely that the pollen of the one, fertilizing the pistils of the other, has produced a mongrel or hybrid, for we do not hear of any intermediate plant, such as would be the result of a mixture.

Providence has wisely appointed, that what a man sows he shall reap, and does not suffer him to receive in return for the most useful of all grains, a useless and even deleterious seed.

We should not have noticed this matter, had we not seen in print several articles, evidently written by firm believers in vegetable transubstantiation. Desiring to correct a heresy so gross, we have entered our protest against it.

The serious effects said to be produced by a large quantity of chess ground up with wheat, as giddiness and delirium, render it an important object to get rid of this plant. We suspect that sowing clean grain on clean ground will be found the very best method of accomplishing this object.—*New York Farmer.*

From the New England Farmer

Flax--Food for Cattle.

Mr. Fessenden:—If the following remarks are worthy of a place in your valuable paper, you are at liberty to publish them.—Some years since there was a great scarcity of hay. At that time I had on hand a large stock of cattle. Sometime in the month of February my stock of hay was about all gone, and where to obtain more, I could not tell. It could not be had short of twenty miles, and there at the price of thirty dollars per ton.

One day I went to the stable, and as soon as I entered, every eye was upon me for aid. You may imagine what my feelings were, when I knew of no relief which I could bestow. I stood a while to reflect on what course to pursue, or what to do. At last I thought of some flax which had been laying on the beams of my stable for several years, which had not been rotted. I threw down a few bundles, and gave some of the flax to my cattle. They took hold of it with such eagerness, that I was obliged to take it from them to prevent their being choked with it. I then took a block of wood and a broad axe, and chopped it up short. I then gave a very little to my cattle, and continued to so do, until it was all gone.

From what I then discovered of the virtue and oily substance that the flax contained, I am of opinion that what I could take up between my two hands and fingers, after being chopped, and given to a cow each day through the winter, would carry her through the foddering season. My opinion is that the bulk of one ton of hay in flax, will be of more value to a stock of cattle than four tons of hay. I am also of opinion that oil can be obtained from flax. As I have an oil mill, I intend to try the experiment the ensuing season. I would recommend to farmers to sow more seed the coming spring than usual; for flax and the seed are of more value than people are aware of.

Stephen Perley.

Meredith, Feb. 20, 1837.

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By the Editor.—The use of unrotted flax as food for cattle is new to us, and we have never, before we received Mr. Perley's communication, heard or read of its being applied to that purpose.

Chinese Mulberry or Morus Multicaulis Seed.

We caution our friends not to buy seeds purporting to be the Chinese, or Morus Multicaulis, expecting to raise their kind from them. The Morus Multicaulis cannot be produced from seed, as all well know who have studied the character of the tree; and he who will advertise, in a manner calculated to mislead the uninformed, is a foe to the interests which he pretends to advance. The cat once signed dreads the fire. The farmer once fleeced will not be likely to try again.

C.

Process of Making Beet Sugar.

We have often been asked the manner by which sugar was extracted from beets, but were unable to give satisfactory answers. To those inquirers the following article, from the Silk Culturist, will be found interesting.

The attention of the public having been some time drawn to the manufacture of sugar from the beet, and having repeatedly recommended its cultivation to farmers as a profitable crop, we have felt ourselves under an obligation to give them the details of the process by which it is extracted. We have, therefore, examined the best authorities on the subject, and consulted several gentlemen of some practical knowledge and experience in the business, and the result of our investigation is that the process is altogether more simple and less expensive than has generally been supposed. In describing the various processes in the manufacture, we have carefully avoided the use of chemical terms, and substituted language which we hope will be understood by every reader.

There are several varieties of the beet which yield sugar, but the Silecian beet is re-

commended as the best and most productive. This beet will come to maturity in all parts of the United States, up to the 45th degree of latitude. The soil most congenial to its growth is a light sandy loam, of good depth, and if free from stones the better. Probably no country in the world is better adapted to the growth of this root that the alluvial meadows on the Connecticut and other rivers of New England. The cultivation, however, need not be confined to vallies, as in most of the hill towns, land may be found well adapted to its growth. The land is prepared for the seed by deep ploughing and pulverizing the surface. This is best accomplished by ploughing in the fall and leaving the land in furrows through the winter. In the spring the land should be cross ploughed and harrowed, and, if the soil be light, it will be prepared to receive the seed. The seed may be sown as early as the season will admit, broad cast, or in drills; but ultimately the plants should be from 12 to 19 inches apart. They should be hoed and kept free from weeds —at the second hoeing they should be thinned out and but one plant left in the hill—the surplus plants may be transplanted to vacant places in the field.

In the extraction of the sugar, the beets must first be cleaned by washing or scraping with a knife, and care be taken that all decayed parts be cut off. They must then be passed through the rasp and be reduced to a pulp—the finer they are rasped the better, as it facilitates expressing the juice. The pulp must then be put into cloth bags and have the juice pressed out by a screw press. In France they use the hydraulic press, but a cider, or other press, will answer the purpose, and be attended with much less expense. As decomposition commences soon after the beet is out of the ground, and progresses rapidly, no time should be lost in converting them into sugar.

After the juice is expressed, and before it is converted into sugar, it must undergo four distinct and different processes. 1. Defecation. 2. Evaporation. 3. Clarification. 4. Concentration.

DEFECATION.

The composition of the beet juice does not differ essentially from that of the cane—it combines with the saccharine matter small quantities of malic or acetic acid, wax and mucilage, which must be extracted before evaporation is commenced. The first process, therefore, is to purify the juice, which must be done by neutralizing the acid, decomposing the wax and coagulating the mucilage, and hence is called defecation. All this may be done by heating and mixing with it the milk of lime in about the proportion of 46 grains troy weigth to the gallon. The milk of lime is prepared by slacking quick lime with hot water, and reducing it to the consistence of cream. The juice must be heated to about 160 degrees Fahrenheit, and the milk of lime poured into it and thoroughly mixed by stirring with a stick. After it is intimately mixed, the stirring must be stopped and the mixture suffered to rest for a short time. It must then be heated to the boiling point, which will throw the impurities upon the surface in the form of scum, when the boiling must be stopped. When the juice has become clean it must be drawn off from below, by means of a cock, or the scum must be skimmed off from the top—care being taken in either case to effect a complete separation.

EVAPORATION.

The next process in the manufacture is to dissipate the water, which is done "by boiling away," as it is commonly called, but in technical language, evaporation. If in the process of defecation an excess of lime has been used it should be extracted. This may be done by a mixture of sulphuric acid and water, in the proportion of one of the former to forty-four of the latter. This mixture put in contact with the lime, causes an effervescence, by which the lime is thrown off, and the cessation of which is a sure evidence that the lime is neutralized. Some manufacturers say that a small portion of lime should be allowed to remain, and others that the whole should be neutralized. As practical men differ on this point, we can safely conclude it is not very material.

The juice is boiled down till it is reduced to about one fifth or one sixth of its original quantity. For this purpose pans or kettles may be used; but it will be seen that those vessels which present the greatest surface to the fire, and give the least depth to the juice, will best facilitate evaporation. As the water evaporates, flaky substances will separate from the juice and collect in a white foam on the surface, which must be skimmed off as it appears. To promote their separation, the boiling is commenced with a moderate fire, which is subsequently increased as they disappear. Sometimes the white of eggs beaten, or a little blood, is added for the same purpose. During the boiling the juice will rise in froth and flow over the top of the pan, unless prevented by occasionally throwing in a small quantity of some fatty substance. Butter is commonly used, but tallow, lard, &c., will answer the same purpose. It not only causes an immediate subsidence, but hastens evaporation.

CLARIFICATION.

After being defecated and evaporated, the

juice is yet in a degree impure, and the object of the next process is to separate it from its remaining impurities, and hence is called clarification. This consists in filtering it through animal charcoal granulated [burnt bones broken to grains,] and is performed in the following manner. Tubs, or vats in the form of those used for leeching ashes, are made of wood or metal, and furnished with a cork inserted near the bottom. The size of the vats is immaterial; but those of the following dimensions will be found most convenient—2 feet 8 inches deep—1 foot 8 inches in diameter at the top and 11 inches at the bottom. They may be four sided or round; but those made of staves and hooped with iron hoops we should think the cheapest, and on some accounts the best.

A strainer standing on legs, and covered with coarse cloth, must first be placed in the bottom of the vat and filled with the charcoal —about 100 pounds will be necessary for a vat of the above dimensions. The charcoal must then be covered with another strainer and cloth, and the vat filled with evaporated juice, or as it is then called syrup. After standing long enough to leach through the charcoal, the cock must be turned and the syrup be slowly drawn off, and the vat refilled as fast as it is emptied. The charcoal must be changed twice a day, but it may be washed and reburnt, and thus prepared, it will answer for another filtration—may be repeated until it is consumed.

CONCENTRATION.

The next process is to solidify the syrup, and hence is called concentration. To accomplish this it must be again evaporated until it is brought into a proper state for chrystalization. As it is important that evporation should cease as soon as it arrives at this point, Chaptal gives the following rules for ascertaining the fact.—"1. Plunge a skimmer into the syrup, and upon withdrawing it pass the thumb of the right hand over its surface, mould the syrup which adheres to the thumb, between that and the fore-fmger, till the temperature be the same as that of the skin—then separate the thumb and finger suddenly—if the boiling be not completed, no thread will be formed between the two; if there be a filament the boiling is well advanced; and the process is completed as soon after as the filament breaks short, and the upper part having the semi-transparency of horn, curls itself into a spiral. 2. The second mode of judging of the completion of the process is by observing the time when the syrup ceases to moisten the sides of the boiler, and then blowing forcibly into a skimmer which has just been immersed in it—if bubbles escape through the the holes of the skimmer which ascend into the air in the same manner as soap bubbles do, the liquor is considered to be sufficiently boiled."

When the concentration arrives at this point, the syrup must be taken from the boiler and poured into large pans, for the purpose of cooling. The pans must be placed in the air and the syrup occasionally stirred during the process of cooling, which will be completed in about two hours. On examination, the bottom and sides of the pan will be found covered with a thick bed of chrystals, having but little consistence; on the surface of the syrup, a crust will also be formed. To promote chrystalization, or, as it is more properly called, graining, a thin bed of brown sugar is sometimes put upon the bottom of the cooling pan in order to make a nucleus about which the chrystalized matter may gather.

After the syrup is cooled and chrystalized, or grained, all that remains is to separate the sugar from the molasses, and it is fit for domestic consumption or market. To effect this separation, moulds, as they are called, must be prepared in the form of defecating vats, with the lower end drawn to a point, or so near a point as to leave a hole of three fourths of an inch in diameter. These may be made of wood, metal or earthern ware, and their capacity may be regulated according to the convenience of the manufacturer. Those used in the sugar factories in France, usually, are large enough to contain five or six gallons. They are also used in the refining process. Before using them, if of wood, they must be soaked several hours in water, and dried a short time before they are filled with syrup. Thus prepared, and with a cork in the hole at the point, they must be filled, or nearly filled with chrystalized syrup, and secured in an upright position, over a pan or tub of sufficient size to receive the quantity of molasses it contains. After standing from 12 to 26 hours, according to circumstances, the cork is withdrawn and the molasses permitted to drain off. It will at first drain off rapidly; but soon cease to flow in any considerable quantity. To hasten its separation from the sugar, which takes place slowly, the mass must be pierced with an iron spear, by thrusting it in the hole at the point, which will give it vent and cause it to drain off.—This operation must be repeated as often as is necessary, and until the molasses is extracted.

After having remained long enough to have the molasses run off, the sugar is detached from the sides of the mould with a knife, the moulds are set on the floor in a reversed position and left for two or three hours—when by lifting from the floor and giving it a shake, the loaf will separate from the mould by force of its own weight. The

head of the loaf will retain a degree of moisture and a portion of molasses, and consequently should be cut off and thrown in the juice intended for the next clarification. The molasses, also, when a sufficient quantity is on hand, should be again concentrated in order to obtain all the chrystallizable sugar it contains. By the foregoing processes the beet is converted into brown sugar, the kind which is consumed in the largest quantities in most families. In the manufacture of loaf, or lump sugar there is another process called "refining," but being foreign to our present purposes we omit it.

Brief Hints for Spring Work.

Apply manure to corn and potatoe crops, and not to grain crops.

Let manure be buried as soon as possible after spreading.

When rotted or fermented manure is applied, let it be as thoroughly mixed with the soil as possible.

Wheat thrown out of the gronnd by frost, should be pressed in again by passing a roller over it.

Ploughing heavy soils when wet, does more injury than if the team were standing idle.

In ploughing green sward deeply, the furrows must always be at least one half wider than deep, else the sod will not turn well.

New meadows should now be rolled.

All grain fields seeded to grass should be rolled.

Barley should be sown as early as possible, upon a light and moderately moist soil, at the rate of one and a half to two bushels per acre, according to the size of the seed.

A roller should be passed over it as soon as it is harrowed, to press the soil round it, and smooth the field.

Barley seed may be freed from intermixed oats by pouring water upon it, when the oats will float, and may be skimmed off.

Oats require strong rich soil, good culture, and early sowing.

Preserve leached and unleached ashes which have accumulated during the winter, to be applied to corn, *in* the hill or row.

After the corn is dropped, put in a small handful of mixture of plaster and leached ashes.

Plaster is always most efficacious on light and thin soil—on meadow and clover ground, the earlier it is sown the better

Plaster when applied to cultivated ground, is best when worked into the soil.

Sowing it broadcast upon Indian corn after it is up, has increased the crop 25 per cent.

Every farmer should attempt the field culture of root crops—he may raise as much cattle food from one acre, as from five acres of meadow.

Farmers who have rich soil, will succeed best with mangel wurtzel, those who have sandy soil, with ruta-baga. They should try both; and by no means neglect the culivation of the *Sugar Beet.*

Sow garden crops in drills where practicable, in order that the weeds may be cleared with a hoe.

Different varieties of melons and sqashes should be planted at the greatest possible distance, in order to prevent intermixing and crossing.

Loosen the soil with a spade round fruit trees growing in grass land.

Examine the roots of the peach trees and remove all the grubs. Their presence is shown by the gum oozing out.

Take every opporunity of setting an ornamental shrub or tree round your house or door yard—now is the time—if your have any taste you will never regret it.—*Genesee Farmer.*

Seasonable Advice to Farmers.

SOWING OF GRASS SEEDS.

We extract the following timely and judicious remarks from the Baltimore Farmer and Gardener of the 7th, inst.

Such farmers and planters as may not have put in their grass seeds last autumn should do so as soon as the frost is out of the ground. For *clover*, there is but one opinion as to the superiority of spring sowing, and although many give the preference to sowing timothy seed in August, still there are those, whose opinions are worthy of consideration, that advocate the practice of setting it in spring on the growing wheat or rye: so also, indeed, with respect to almost every other of the artificial grasses.

If you intend to sow *clover* seed alone on your grain fields, you should not think of seeding less than from 12 to 16 pounds to the acre.

Timothy, if sown alone, should be in the proportion of from 2 to 2 1-2 gallons of seed to the acre.

Rye Grass alone 2 bushels to the acre.

If *Clover* and *Timothy* be sown together, from 10 to 12 lbs. of the former seed and a peck of the latter would not be found too much.

If you purpose carrying your mixture still further, sow 10 lbs. of clover seed, 6 quarts of timothy, 1-2 bushel of herd's grass to the acre,—or

Of *clover* 8 lbs., *orchard grass* 1 bushel, *tall meadow oat* 1 bushel, and *herds* grass 1-2 bushel.

In Europe the following is in many districts a popular mixture, 2 bushels of *rye grass*

seed, and from 12 to 20 lbs. of *clover* seed to the acre.

It is usual to sow the orchard and tall meadow oat in early autumn, but there is no question that they would succeed now. The orchard grass should be moistened with water and permitted to remain so for a day before sowing.

Whatever grass seeds you sow on your winter grain, be sure to pass a light harrow, and roller over them. You need not apprehend any injury to your grain, for although some roots may be dragged out, you will be more than renumerated by the addition you will receive from the tillering of the branches of the plants which will be imbedded in the soil during the process. That the grass seed will derive advantage from being thus securely placed beneath the soil, common sense and reason both concur in affirming. They will be much more likely to escape destruction from birds than if left upon the surface; they will vegetate with greater certainty, and being well fixed in the earth, their roots will be much better able to withstand the droughts of summer and the frosts of winter. We need not say that the operation of harrowing and rolling should be performed when the ground is in a state to bear the treading of the horse without injury, as it will strike the intelligent reader that if done when the ground is *wet*, much injury will result to the grain.

LUCERNE.

Those who may feel disposed to dry their fortune with this valuable grass, can do so as soon as the ground is relieved from the frost and dampness. It should be sown on a dry rich soil, which had been previously well cleaned. From 16 to 20 quarts of seed should be soon. It may be put in with the spring barley and oats. In England and Scotland it is frequently cut four times in the season.

OATS.

The earlier, after the frost is out of the ground, that you get your oats in, the better, and if you can possibly spare from your other crops, a portion of manure, do so; for you may rest assured, notwithstanding custom has allotted them to grow on the poorest part of the farm, unaided by nutritious substances of any kind, they would be all the better of a dressing of something calculated to urge them forward. It is to be sure in the general by no means a profitable crop, but then it is a most necessary one, and, therefore, should find favor. But should there be no manure to spare, do, if you can, give the soil an extra ploughing, and thus in part atone for your neglectful culture. We often hear farmers complaining of the degeneracy of, and the falling off of this grain in weight, and may not this be accounted for in the fact, that they are generally grown on the very poorest spots that are to be found, and left to grope their way to maturity in the best way they can.

Two or 2 1-2 bushels to the acre is the proper quantity of seed. They should be well harrowed in.

POTATOES.

Should the weather admit of it, you should get in your *early potatoes* from the middle to the latter end of this month. But you should not dream of reaping a good crop unless you are liberal in your bestowal of labor and manure in the preparation of the soil. Your ground should have a southern exposure, and either be a good soil naturally, or be made so by art. It should be thoroughly and deeply ploughed and harrowed; then strike your rows 27 or 30 inches apart, place your sets about 10 inches distant from each other, throw in your rows a goodly portion of unfermented stable manure, then cover them with the soil, either by running a furrow on either side, or by hand-hoeing. In either event, no *clods* should be permitted to come in contact with the sets. As soon as there is the least indication that the potatoes are coming up, run the harrow crosswise the rows; when the potatoes are up two or three inches, plough a furrow on either side from the potatoes; this must be replaced by throwing the furrow back again. This process will greatly improve the tilth of the soil, and thereby afford the young potatoe plants an additional chance of moving onward in their growth. After the furrow is thrown back, the rows should be gone over with a hand-hoe, cleaned of all weeds, and so regulated as neither to retain too much moisture, nor to prevent a surface that would easily suffer by drought. In two or three weeks more another ploughing and hoeing will be necessary; for it is important to keep the ground stirred and clean. This second ploughing however should not be so near to the plants in the rows as the former; and after this, the *cultivator* instead of the plough must be used to complete the work in about two or three weeks, which will be determined by the advance of weeds, and the wants of the potatoes.

CARROTS AND PARSNEPS.

As soon as the frost is entirely out of the ground, you may begin to sow the seeds of these roots, for field culture, and thence up to the 1st of May, the sooner they are in the larger will be their yield, and as they are alike excellent food for man and beast, we have always been surprised that comparatively so few were raised. An acre, well prepared and cultivated, in suitable soil, will

yield from 500 to 600 bushels, which would be sufficient to keep four cows fully to their milk during the winter.

MANURE.

Carry out your manure to your fields in which you intend to use it. If you intend to top-dress your meadows, or growing crops of grain, the sooner that is done the better, taking the precaution never to let your wagons or carts go on either when the ground is soft.

LIME.

If you intend to use any this season, it is time you had made your arrangements for procuring or burning it. If intended to be used on your meadows, the sooner the better it is spread thereon; if on your corn ground, you cannot get it on too early as it should receive sufficient ploughings to thoroughly incorporate it with the soil.

ASHES.

Do no omit to provide yourself with a sufficient quantity of this delightful substance; to give your corn plants a dressing, however trifling the quantity applied, it will speak out most eloquently.

FENCES.

See to your fences and have them thoroughly repaired, and thus secure yourself against the inroads of stock of all kinds.

TOOLS AND IMPLEMENTS.

These must be examined and put in order, —and in fact at this critical period of the year, the farmer should have his eyes on the search in every direction.

THE KITCHEN GARDEN.

If you desire to have your table spread with early vegetables, those grateful accompaniments of well cooked viands, prepare yourself without delay a hot-bed, and sow your seeds as cabbage, lettuce, tomatoes, egg-plant, cucumbers, &c. Have you the frames? If you have them not, get a couple of window frames with the glass in them, fix yourself up a box, (the back elevated to about twice the height of the front,) to fit your sashes, then prepare your hot-bed, by simply separating the grosser parts of your horse-dung and putting it in to the depth of about four feet: this must be permitted to remain for some time to go through its more violent heatings, when about 4 inches of good mould should be put on in a dry state; upon which, sow your seed. Over your glass you must throw a matting of straw at night, and always in falling weather. If the middle of the day be fine, the matting must be taken off and the sash raised to give ventilation.

If you have no window frames, make a hot-bed on a southern border well protected from the wind. Dig out the earth, the length required, a spit deep, put in fresh horse dung to the depth of 6 inches, then throw on the earth that had been previously dug out, rake it fine: take stakes with prongs, and drive in back and front, about a foot higher than the bed, place poles from stake to stake, then cover these with a thick layer of corn-stalks, then put on leaves or straw an inch or two thick, and top the whole with pine brushes. At night, or in bad weather, you should cover this bed with a straw matting, which should extend in front so as to reach the ground.—On this bed sow your different kinds of seeds, and rude though it be, it will afford you as many plants as you may require.

We have given above, two very simple modes of making a hot-bed, and shall now copy from M'Mahan his plan of one. He says, in speaking of the

FRAMES:

Large frames ought to be made of inch and half or rather two inch plank, of the best yellow pine, 9 ft. 2 in. long, 4 feet 10 in. wide, as high again in the back as in the front, to give the top a due slope to the sun and a proper declivity to carry off the wet when covered with glass lights, to move off and on occasionally; every joint ought to be tongued, the better to prevent the admission of cold air into, or emission of warm air out of the bed, but in such manner as the gardener may think proper. The back and front are to be nailed to corner posts, so as to admit the ends to fit in neatly, which ends are to be made fast to the posts by iron bolts keyed in the inside, for the greater facility of taking the frame asunder when necessary; each end must be made one inch and a half higher than the back and front, so as that one-half its thickness may be grooved out on the inside, for the sash to rest and slide on, and the other half left for its support on the inside: when finished give it two or three good coats of paint before you use it, and with a little care and an annual painting, it may last you twenty years.

These frames will take three lights of three feet wide each, each light containing five rows of glass frames, six inches by four, overlapping one another about half an inch, which of all other sizes is the most preferable, on account of their cheapness in the first place, the closeness of their lap, their general strength and trifling expense of their repairs; however each person will suit his own convenience as to the size of the glass. Where the sashes when laid on the frame meet, a piece of pine about 3 1-2 inches broad and near two thick, should run from back to front morticed into each, for their support, and for them

to slide on; in the centre of which, as well as in the ends of the frame, it will be well to make a groove 5-8ths of an inch wide and a quarter of an inch deep, round at bottom to receive and carry off any wet which may work down between the sashes.

METHOD OF MAKING A HOT BED.

Provide the requisite supply of good horse stable dung, consisting of that formed of the moist stable litter and dunging of the horse together, choosing that which is moderately fresh, moist and full of heat—always preferring that which is of lively, warm steamy quality, and of which take the long and short together as it occurs, in proper quality as above. If the dung is rank it would be proper to prepare it a little to an improved state, more successful for that purpose, by forking the whole up in a heap, mixing it well together, and let it thus remain eight or ten days to ferment equally, and for the rank steam and fierce heat to transpire.

Choose a place on which to make your hot bed in a dry sheltered part of the garden, open to the morning and south sun: it may be made either wholly on the surface of the ground or in a shallow trench, of from 6 to 12 inches deep and 4 to 5 feet wide, according to the frame; if made on the surface, which is the most eligible, as it affords an opportunity of lining the sides of the bed with fresh horse dung, quite down to the bottom, to augment the heat when it declines, and also prevents wet from settling about the bottom of the bed, as often happens when made in a trench, which chills the dung and causes the heat to soon decay.

Then according to the size of the frame, mark out the dimensions of the bed, either on the ground or with four stakes, making an allowance for it to be about 4 or 5 inches wider than the frame each way: this done, begin to make the frame accordingly, observing to shake and mix the dung well as you lay it on the bed, but I would not advise treading it; for a bed which is trodden hard will not work so kindly, and be no more liable to burn than that which is suffered to settle gradually itself: proceed in this manner until the bed has arrived at the height of four feet, which will not be too much, making an allowance for its settling 6 or 8 inches, or more, in a week or fortnight's time; and as soon as finished, let the frame and glass be put on; keep them close till the heat comes up, then raise the glass behind that the steam may pass away.

The next thing to be observed is about earthing the bed, in which to sow the seed, and for which occasion you should have a proper supply of rich, light, dry earth, or compost, ready at this season, under some airy dry shed or hovel, covered at top to keep out rain, that the earth may be properly dry; for if too moist or wet at the time, it would prove greatly detrimental both to the growth of the seed and young plants, as well as be very apt to cake and burn at bottom next to the dung, by the strong heat of the bed: three or four days after the bed is made prepare to earth it, observing previously if it has settled unequally to take off the frame and glasses, and level any inequalities; make the surface smooth, put on the frame again, and then lay therein as much of the above mentioned earth as will cover the whole top surface of the bed about 3 or 4 inches thick. In two or three days you may sow your seeds, after which put on the lights or glasses close, but when the steam rises copiously give it vent by raising one corner of the upper end of the lights half an inch. Cover the glasses of the hot bed every evening an hour before sunset if mild weather, earlier if bad, with garden mats, uncover them every morning between 8 and 9 o' clock. The plants should have air every day.

This we deem all sufficient to enable the farmer to manage his hot-bed successfully, and for the subsequent treatment of it we shall leave that to his own judgment and that of his gardener.

If you are disposed to encounter the trouble—and it is nothing compared with the value of the luxuries you may enjoy—you may raise early cucumbers, lettuce, melons of all kinds, cauliflowers, and all other tender vegetables in your hot-bed for transplantation, and thus as it were anticipate nature in her usual annual gift of those delicious luxuries.

CABBAGES.

Sow all the early varieties of cabbage seed, and by the time the earth is warm enough to receive the plants into its bosom in the open air, they will be ready to be removed thither, and if judiciously managed in setting out and after culture, they will head nearly as soon as those which were placed out last autumn.

GENERAL CROP OF CABBAGE.

Towards the latter end of this month, you may sow with decided advantage, the flat Dutch, Drumhead, large English Savoy and indeed all the different varieties of Cabbage. When sown early, you have a better chance of availing yourself of a good season to transplant them, the plants have longer time to grow in, and will attain a much larger size than if sown late.

PEAS.

As soon as the frost leaves the ground, you may put in all sorts of early peas, and if planted at intervals of a week or two throughout the spring, you may secure a continuous

succession of this delightful vegetable, either for the table or market. The soil most suitable for peas, is a light sandy loam, though they will grow well in any ground except it be in a stiff tenacious cold clay. From 3 to 4 feet is a good distance for the rows to be apart, the peas to be dropped about 4 inches asunder. Generous manuring tends not only to increase their quality of product, but to accelerate the maturing of the pea family. The pease should be stuck before the plants throw out runners.

WINDSOR BEANS.

All of this tribe of vegetables may very safely be planted in open culture after the 20th of this month.

Hysop, Sea Kale, Garlic, Artichokes, Fennel, Rhubarb or pie plant, Lettuce, Radish, Spinach, Carrots, Parsneps, small Salading of all kinds, Celery, Onions, Beet, Leeks, Shives, Parsley, Thyme, Sage, Broccole, and Asparagus seeds, should now be sown and planted.

ASPARAGUS.

Your asparagus beds should be forked and dressed the latter end of this month. In forking be especially careful to stir and loosen every part of your beds, and equally so not to go deep enough to wound the crowns of the roots.

If you desire to make new plantations of this vegetable, you may with perfect safety put out your plants as soon as the ground is rid of the effects of the winter frosts.

TURNEPS.

If you desire to have early turneps for your table, sow the seed any time after the 20th of of this month.

All the fruit trees in your garden may now be advantageously trimmed and pruned—so also your gooseberry, current and raspberry bushes; the cuttings taken from the three last should be planted out to form the material for future plantations of these excellent and healthful fruits. Let the ground be thoroughly stirred around the old bushes.

FIGS.

This is the best month for planting out fig trees, or for setting out cuttings, layers or suckers from them.

GRAPES.

The earlier after the frost is out of the ground that you transplant vines, or put out your cuttings the better, for it is important that they each start in their growth with the earliest vegetating power of the earth in spring.

Rose, Snow-ball, Lilac, and all other bushes of the flowering tribes should be set out as early this month as possible.

As soon as the plants in your strawberry beds push through the earth, the beds should receive a dressing. Clear out all the weeds, decayed leaves, and old runners: loosen the earth round the plants, and apply some rich mould about them, digging it in so as to prevent a loss from evaporation or washing.

IN THE ORCHARD,

All the different kinds of fruit trees which have not been pruned, should undergo that operation as speedily as possible, and the wounds should be immediately covered with M'Mahan's medicated tar, or some other mixture competent to effect the same object; this tar is thus made and compounded:—

Take 1-2 oz. corrosive sublimate, reduced to a fine powder, and 1-2 gill of gin or spirit. Put these into an earthern pipkin, stir them well until the sublimate is dissolved; then *gradually* add three pints of tar into this mixture until the whole is thoroughly incorporated, when a half pound of finely pounded chalk to give the tar an adhesive property must also be added.

This composition, says M'Mahan, will be found eminently useful, as no worm of any kind, can live near its influence, and no evil whatever, will arise to the trees from its poisonous quality; it yields to the growth of the bark, and affords a comfortable protection to the parts against the effects of the weather.

Young apple, peach, plumb, apricot, pear, cherry, and indeed all kinds of trees, and shrubs, whether fruit or ornamental, may be set out as soon as the frost is out of the ground.

The same excellent author further advises, that you should examine your fruit trees, particularly the peach, and if annoyed by worms either in their trunks or branches, about the surface of the ground and a little under, pick out as many as you can with a sharp pointed knife, and with as little injury to the bark as possible; scrape off all the gum that appears on the stem or the branches, and wash all these parts, and any other that you suspect to be infested with these insects, or their embryos, with a solution made by dissolving one drachm of corrosive sublimate in a gill of gin, which when dissolved must be incorporated with 4 quarts of water,—after which dress the wounded parts with the medicated tar described above.

Indian Wheat.

A. W. Stockbridge of Byron, Me., raised last summer from 2 quarts of Indian Wheat, seven bushels and two quarts. After it was mowed and nearly dry, there came a storm and wasted probably half a bushel or more of it.

The writer who communicated this to the

editor of the Maine Farmer says:—"This is more than a common yield. It was sown upon one eighth of an acre, the soil dry and sandy, but it received a pretty good dressing of manure. It was sowed about the middle of June, and harvested near the middle of September. This is the *moderate yield* of one hundred and thirteen bushels from one; thus bringing forth, even in this country, 'some an hundred fold.' We find it good to fatten hogs, and it also makes very good warm bread."

Beet Sugar.

Preparations are making to manufacture beet sugar in Northampton, the coming season. In Northampton, about twelve acres are under cultivation, which will average fifteen to twenty tons to the acre, but when better understood a larger crop may be expected. In French Flanders an average crop is fifteen tons to the acre, but 30 tons are often produced; and in that country, it is said, that even among the poorer classes, no other than refined sugar is used. In Prussia the average crop is sixteen tons to the acre, but in England it is thirty tons, and a first rate crop fifty tons to the acre.

Hints to House Wives.

It is easy to have a supply of horseradish all winter. Have a quantity grated while the root is in perfection, put it in bottles, fill it with strong vinegar, and keep it corked tight.

Poke root boiled in water and mixed with a good quantity of molasses, set about the kitchen, the pantry, &c., in large deep plates will tend to kill the cockroaches in great numbers, and finally rid the house of them. The Indians say that poke root boiled into a soft poultice is a cure for the bite of a snake. I have heard of a fine horse saved by it.

A little salt sprinkled in starch while it is boiling, tends to prevent it from sticking, it is likewise good to stir it with a clean spermaceti candle.

A few potatoes sliced, and boiling water poured over them, makes an excellent preparation for cleansing and stiffening old rusty black silk.

Green tea is excellent to restore rusty silk. It should be boiled in iron, nearly a cup full to three quarts. The silk should not be wrung, and should be ironed damp.

Lime pulverized, sifted through coarse muslin, stirred up tolerably thick in white of eggs makes a strong cement for glass and china. Plaster of Paris is still better; particularly for mending broken images of the same material. It should be stirred up by the spoonful as wanted.

A bit of isinglass dissolved in gin, or boiled in spirits of wine, is said to make strong cement for broken glass, china and sea shells.

Do not wrap knives and forks in woollens. Wrap them in good strong paper. Steel is injured by lying in woolens.

Do not let coffee and tea stand in tin.—Scald your wooden ware often; and keep your tin ware dry.

Barley straw is the best for beds; dry corn husks, slit into shreds, are far better than straw.

Straws beds are much better for being boxed in the same manner as upholsterers prepare ticks for feathers.

Brass and iron should be cleaned, done up in papers and put in a dry place, during the summer season.

THE NETTLE.

In the Newspaper of the Bavarian Agricultural Society, the nettle is said to have the following properties: eaten in sallad, it relieves consumption; it fattens horned cattle, whether eaten green or dried; it not only fattens calves, but improves their flesh; it is an antidote to most maladies; sheep which eat it bring forth healthy, vigorous lambs; it promotes the laying of eggs in hens; it improves the fat of pigs; the seeds, mixed with oats, are excellent for horses; it grows all the year round, even in the coldest weather, and fibres of the stem makes an excellent hemp. The Bavarian oracle might have added, that few plants force better or more rapidly, and that the tender shoots so produced make a delicate and high flavored pot herb, resembling the points of the shoots of the pampion.

The nettle is much valued in Holland, where its young shoots are used as a pot herb; its roots for dyeing yellow; where the horse dealers give the seed to horses, to make them brisk, and give them a fine skin; and where considerable portions of fields are planted with it, and mown five or six times a year, as green food.

TO PRESERVE RHASPBERRIES.

Pick your raspberries in a dry day, just before they are fully ripe; lay them on a dish, beat and sift their weight of fine sugar, and strew it over them.—To every quart of raspberries take a quart of red currant jelly, and put to it its weight of fine sugar; boil and skim it well, then put in your raspberries, and give them a scald. Take them off and let them stand for 2 hours; then set them on again, and scald until they look clear.

A very useful adage, and one that should be carefully recollected is—"Shut the door."